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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,688	11/19/2003	Wendell J. Bouknight JR.	RSW9-2003-0238US1 (7161-1)	6588
46320 7590 03/21/2008 CAREY, RODRIGUEZ, GREENBERG & PAUL, LLP STEVEN M. GREENBERG 950 PENINSULA CORPORATE CIRCLE SUITE 3020 BOCA RATON, FL 33487			EXAMINER WHIPPLE, BRIAN P	
			ART UNIT 2152	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/716,688	<b>Applicant(s)</b> BOUKNIGHT ET AL.	
	<b>Examiner</b> Brian P. Whipple	<b>Art Unit</b> 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/19/03</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. Claims 1-18 are pending in this application and presented for examination.

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the re-sizing step (see claim 1); the varying delays step (see claim 2); the establishing a buffer step (see claim 5); the performance monitor, the reporting tool, the buffer size calculator, and the buffer resizing component (see claim 6); an application-layer buffer and a kernel-layer buffer (see claim 7); performing an analysis of an amount of data passed between said application-layer buffer and said kernel-layer buffer (see claim 10); the four statistical analyses (see claim 11); weighting monitored information in a buffer profile (see claim 12); a profile aggregator configured to combine individual buffer profiles (see claim 13); and a machine readable storage (see claim 14) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an

amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims 1 and 14 are objected to because of the following informalities. As to claim 1, ln. 3, and claim 14, ln. 6, the phrase “recording in at least one buffer profile different data sizes” may be better written as “recording, in at least one buffer profile, different data sizes”.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 6-13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The profile processor of claim 6 may be implemented merely in software (see instant specification, [0029], ln. 1-2). Software alone fails to fall into one of the four statutory classes of invention: process, machine, manufacture, and composition of matter.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 4-5 and 17-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. As to claims 4 and 17, the phrase “maintain long-lived communication” is vague and indefinite. Maintaining long-lived communication could refer to maintaining individual connections for a long period of time or to maintaining the communications system as a whole for a long period of time, but such that individual connections of any length of time

may be established. Additionally, the phrase long-lived is overly broad and subject to a wide range of interpretation. The same connection could be interpreted as being short or long-lived by different users and/or systems.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-9, 11-12, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bakshi et al. (Bakshi), U.S. Patent No. 6,836,785 B1, in view of Dupont, U.S. Patent No. 6,843,800 B2.

11. As to claim 1, Bakshi discloses an autonomic buffer configuration method (Abstract, ln. 1-4, “variable sized buffer”) comprising the steps of:

monitoring data (Fig. 4, items 410 and 420; Col. 5, ln. 6-11, “wait for an incoming request... the process determines whether a server is in an overloaded state”) flowing through buffers (Fig. 4, items 440, 470, and 480; Col. 5, ln. 20-29, “the process determines

whether the buffer is at an acceptance limit... If the buffer is filled to the acceptance limit, then the process proceeds to step 480; otherwise, the process proceeds to step 470”) in a communications system (Fig. 1; Col. 2, ln. 25-36);

computing an optimal buffer size (Col. 4, ln. 12-16, “alter the capacity of the variable size buffer 302”) based upon a specification of a required percentage (Col. 4, ln. 12-16, “the acceptance limit 306 can be varied between 100% and 0% in order to alter the capacity of the variable size buffer 302”); and

re-sizing at least one of said buffers (Col. 4, ln. 9-12, “variable size buffer”) without re-initializing said at least one resized buffer (Col. 4, ln. 14-16, “the acceptance limit 306 can be varied between 100% and 0% in order to alter the capacity of the variable size buffer 302”; Col. 4, ln. 29-44 and 50-54, resizing is performed dynamically in response to the current load on the processor 300, re-initialization is not required as only requests that would push the buffer over full capacity are blocked).

Bakshi is silent on recording in at least one buffer profile different data sizes for different ones of said data flowing through said buffers during an established interval of time; and

the required percentage being a required percentage of times a buffer must be able to accommodate data of a particular size.

However, Dupont discloses recording in at least one buffer profile different data sizes for different ones of data (Fig. 1, item 60, "Packet Monitor"; Col. 2, ln. 47-49, "monitors incoming data packets to track the size of all of the data packets and to track the frequency at which specific packet sizes are received"; Col. 2, ln. 53-55, "size frequency information may be stored in a frequency look-up table or by other suitably [sic] means") flowing through buffers (Fig. 1; Col. 2, ln. 35-39, "packet monitor 60 monitors and stores information regarding incoming data packets at the input queues 20") during an established interval of time (Col. 2, ln. 47-49, "track the frequency at which specific packet sizes are received", frequency is a function of time); and

a required percentage of times a buffer must be able to accommodate data of a particular size (Col. 3, ln. 24-34, "buffer memory allocator 80 uses the packet size information obtained by the packet monitor 60 to determine the number of buffer units of each type to allocate").

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bakshi by recording, in at least one buffer profile, different data sizes for different ones of data flowing through buffers during an established interval of time and defining a required percentage of times a buffer must be able to accommodate data of a particular size as taught by Dupont in order to efficiently allocate buffers for the storage of variable-sized data packets, for example "small packets do not have



to be stored in large buffer units that could otherwise hold a data packet, and conversely, a large data packet does not have to be segmented into a plurality of smaller segments for storage in smaller buffer units” (Dupont: Col. 4, ln. 39-43).

12. As to claim 2, Bakshi and Dupont disclose the invention substantially as in parent claim 1, including said recording step (Dupont: see claim 1 above) further comprises the step of varying delays between consecutive input/output operations in said communications system (Bakshi: Col. 4, ln. 38-44; Col. 4, ln. 60-64) to affect how much data flows between said communication system and an application coupled to said communications system (Dupont: Col. 4, ln. 25-29).

13. As to claim 3, Bakshi and Dupont disclose the invention substantially as in parent claim 1, including said monitoring step (Bakshi: see claim 1 above) comprises the step of monitoring said data for each connection in said communications system (Bakshi: Fig. 4, items 410 and 420; Col. 5, ln. 6-11, “wait for an incoming request... the process determines whether a server is in an overloaded state”; Col. 1, ln. 15-21; Col. 4, ln. 50-54).

14. As to claim 4, Bakshi and Dupont disclose the invention substantially as in parent claim 3, including said computing step (Bakshi: see claim 1 above) comprises the step of

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computing an optimal buffer size (Bakshi: Col. 4, ln. 12-16, “alter the capacity of the variable size buffer 302”) sufficient to maintain long-lived communication (Bakshi: Col. 1, ln. 38-42, “when under an overload condition for a long duration of time, the large system buffers can remain full for a prolonged period of time”; Col. 4, ln. 59-64; Col. 5, ln. 61-62).

15. As to claim 5, Bakshi and Dupont disclose the invention substantially as in parent claim 4, including establishing a buffer size for newly opened connections in said communications system based upon said computed optimal buffer size (Dupont: Col. 3, ln. 24-34).

16. As to claim 6, the claim is rejected for similar reasons to claim 1 above. Bakshi and Dupont both disclose a system for implementing their respective methods (Bakshi: Fig. 1; Dupont: Fig. 1).

17. As to claim 7, the claim is rejected for similar reasons to claim 2 above. Bakshi and Dupont’s methods of buffer management must be implemented either at the application-level or the kernel-level.

18. As to claim 8, Bakshi and Dupont disclose the invention substantially as in parent claim 6, including said data comprises at least one of requests (Bakshi: Abstract, ln. 1-4) and responses to said requests (Dupont: Col. 4, ln. 30-31, “data packets are large packets that include the data being requested”).

19. As to claim 11, Bakshi and Dupont disclose the invention substantially as in parent claim 8, including said performance monitor (see claim 6 above) comprises a configuration for performing a statistical analysis of requests sizes for an interval of time for said communication system (Dupont: see claim 1 above; e.g., Fig. 1, item 60, “Packet Monitor”; Col. 2, ln. 47-49, “monitors incoming data packets to track the size of all of the data packets and to track the frequency at which specific packet sizes are received”).

20. As to claim 9, Bakshi and Dupont disclose the invention substantially as in parent claim 6, including said communications system is disposed within one of a Web server and an applications server (Bakshi: Col. 3, ln. 36-42; Dupont: Col. 4, ln. 25-29).

21. As to claim 12, Bakshi and Dupont disclose the invention substantially as in parent claim 6, including said monitored information (Dupont: Fig. 1, item 60, “Packet Monitor”; Col. 2, ln. 47-49, “monitors incoming data packets to track the size of all of the data packets

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and to track the frequency at which specific packet sizes are received”) is weighted (Dupont: Col. 3, ln. 1-7, the monitored information is sorted and used to determine the best buffer allocation, therefore the monitored information is weighted) in said at least one buffer profile (Dupont: Col. 2, ln. 53-55, “size frequency information may be stored in a frequency look-up table or by other suitably [sic] means”).

22. As to claims 14-18, the claims are rejected for similar reasons to claims 1-5, respectively, above.

23. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bakshi and Dupont as applied to claim 7 above, and further in view of Provino et al. (Provino), U.S. Patent No. 6,535,929 B1.

24. As to claim 10, Bakshi and Dupont disclose the invention substantially as in parent claim 7, including said performance monitor (see claim 6 above), but are silent on a configuration for performing an analysis of an amount of data passed between said application-layer buffer and said kernel-layer buffer.

However, Provino discloses a configuration for performing an analysis of an amount of data passed between an application-layer buffer and a kernel-layer buffer (Col. 8, ln. 65-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bakshi and Dupont by including a configuration for performing an analysis of an amount of data passed between an application-layer buffer and a kernel-layer buffer as taught by Provino in order to determine if an error needs to be reported due to differences in the application-layer and kernel-layer buffers (Provino: Col. 8, ln. 67 – Col. 9, ln. 2).

25. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bakshi and Dupont as applied to claim 6 above, and further in view of Edmondson, U.S. Patent No. 7,191,229 B2.

26. As to claim 13, Bakshi and Dupont disclose the invention substantially as in parent claim 6, including a single profile for use by said calculator in computing an optimal buffer size (see claim 6 above), but are silent on a profile aggregator configured to combine individual profiles to produce a single profile.

However, Edmondson discloses a profile aggregator configured to combine individual profiles to produce a single profile (Col. 5, ln. 14-17).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bakshi and Dupont by including a profile aggregator configured to combine individual buffer profiles to produce a single profile as taught by Edmondson in order to easily describe complex traffic classes (Edmondson: Col. 5, ln. 17).

### ***Conclusion***

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the Notice of References Cited (PTO-892).

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Whipple whose telephone number is (571)270-1244. The examiner can normally be reached on Mon-Fri (8:30 AM to 5:00 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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